

What is claimed is:

1. An information delivering system for delivering information through a communication network constructed by interconnecting communication lines, said information delivering system comprising:

an information delivering server which is connected to said communication network and configured to deliver three-dimensional content provided for presentation of said information; and

a client terminal which is configured to receive and display units of information through said communication network,

wherein said three-dimensional content is generated by creating a three-dimensional virtual space as projected onto a plane and arranging an object(s) indicative of said information within said three-dimensional space.

2. The information delivering system as in claim 1 wherein said object(s) is provided in order that the position thereof is associated with said content of said information.

3. The information delivering system as in claim 1 wherein said object(s) is a polyhedron each of whose facets is used to display a unit of said information in order that the respective units of said information are shown by turning said polyhedron.

4. The information delivering system as in claim 1 wherein said information of said object(s) as arranged in a certain direction to provide a hierarchical representation corresponding to said positions of said object(s).

5. The information delivering system as in claim 1 further comprising:

a content generation means which is configured to generate said three-dimensional content; and

a content transfer means which is configured to store said three-dimensional content as generated in said information delivering server.

6. The information delivering system as in claim 1 further comprising:

5 a property information storage device which is configured to store the property information of said three-dimensional content;

a skeleton storage device which is configured to store the content of invariable components among said three-dimensional content;

10 a parameter storage device which is configured to store parameters which are externally designated;

a property information management means which is configured to control the management of said property information stored in said property information storage device;

15 a skeleton registration means which is configured to store said content of invariable components in said skeleton storage device;

a parameter setting means which is configured to set up said parameters;

a parameter registration means which is configured to register said parameters in said parameter storage device; and

20 a content providing means which is configured to provide said three-dimensional content for customers with reference to said skeleton storage device and said parameter storage device.

7. The information delivering system as in claim 1 wherein said client terminal further comprises an interpolation means and wherein,

25 when said information delivering server transmits three-dimensional content including a start position and an end position of a moving object and a time as designated for moving from said start position to said end position, said interpolation means perform interpolation of images of said moving object by defining a plurality of frames with a predetermined time interval between said start position and said end position and

dividing the distance between said start position and said end position by the number of said frames during the reproduction of said three-dimensional content.

8. The information delivering system as in claim 1 wherein said client terminal further
5 comprises a skinning data calculation means and wherein,

when said information delivering server transmits three-dimensional content separately as a skin component which deforms with motion and a bone component which does not deform with motion, said skinning data calculation means makes it possible to perform rendering by calculating said weight factors with the coordinates given to said
10 bone component corresponding to said respective coordinates given to said skin component in order to determine the profile of said skin component during reproducing said three-dimensional content.

9. The information delivering system as in claim 1 wherein said client terminal further
15 comprises an external file combination means which is configured to combine an external file as stored in said client terminal when said information delivering server transmits three-dimensional content including a request for a linkage to said external file.

10. The information delivering system as in claim 1 wherein said three-dimensional
20 content is composed of a plurality of project files and wherein said information delivering server further comprises a download management means which is configured to transmit the project file corresponding to a scene as requested from said client terminal for reproducing the scene.

25 11. An information delivering method for delivering information through a communication network constructed by interconnecting communication lines, said information delivering system comprising:

a step of delivering three-dimensional content indicative of said information; and
a step of displaying units of information through said communication network,

wherein said three-dimensional content is generated by creating a three-dimensional virtual space as projected onto a plane and arranging an object(s) indicative of said information in said three-dimensional space.

5 12. (Amended) The information delivering method as in claim 11 wherein said object(s) is provided in order that the position thereof is associated with said content of said information.

10 13. (Amended) The information delivering method as in claim 11 wherein said object(s) is a polyhedron each of whose facets is used to display said information in order that the respective units of said information are shown by turning said polyhedron.

15 14. (Amended) The information delivering method as in claim 11 wherein the information of said object(s) arranged in a certain direction provide a hierarchical representation corresponding to the positions of said object(s).

15. (Amended) The information delivering method as in claim 11 further comprising:
a step of generating said three-dimensional content; and
a step of storing said three-dimensional content as generated in said information
20 delivering server.

16. (Amended) The information delivering method as in claim 11 further comprising:
a step of storing the property information of said three-dimensional content;
a step of storing the content of invariable components among said
25 three-dimensional content;
a step of storing parameters which are externally designated;
a step of registering said parameters in a parameter storage device; and
a step of providing said three-dimensional content for customers with reference to said skeleton storage device and said parameter storage device.

Art 19 Amendments

17. The information delivering method as in claim 11 further comprising a step of
interpolating frames, at said client terminal, with a predetermined time interval between
a start position and an end position by the number of said frames during reproducing said
three-dimensional content, when said information delivering server transmits
5 three-dimensional content including said start position and said end position of a moving
object and a time designated for moving from said start position to said end position.

18. The information delivering method as in claim 11 further comprising a skinning data
calculation step wherein,

10 when said information delivering server transmits three-dimensional content
separately as a skin component which is deformed with motion and a bone component
which is not deformed with motion, said skinning data calculation step makes it possible
to perform rendering by calculating said weight factors with the coordinates as given to
said bone component corresponding to said respective coordinates as given to said skin
15 component in order to determine the profile of said skin component during reproducing
said three-dimensional content.

19. The information delivering method as in claim 11 further comprising a step for
combining, at said client terminal, an external file as stored in said client terminal when
20 said information delivering server transmits three-dimensional content including a
request for a linkage to said external file.

20. The information delivering method as in claim 11 wherein said three-dimensional
content is composed of a plurality of project files and wherein said information delivering
25 server further comprises a download management step for transmitting the project file
corresponding to a scene as requested from said client terminal for reproducing the scene.